

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.(Currently Amended) A method for exchanging data between a first functional unit and a second functional unit, comprising the following acts:

in a first handshake procedure, exchanging data corresponding to a communication thread selected by the first functional unit;

while independently in a second handshake procedure, exchanging information relating to a status of at least one communication thread from the second to the first functional unit; and

based on the information relating to the status, anticipating by the first functional unit a possibility of exchanging data the for at least one communication thread and for a further communication thread; and

scheduling by the first functional unit a data transmission at a time when simultaneous unavailability of the at least one communication thread and the further communication thread is reduced;

wherein the information is indicative of how often new data is to be provided, and

wherein the first handshake procedure and the second handshake procedure occur at least partially simultaneously.

2.(Previously Presented) The method according to claim 1, wherein the information is indicative for a filling degree of a buffer reserved for the at least one communication thread.

Claim 3 (Canceled)

4.(Currently Amended) A processing system comprising a first functional unit and unit, a second functional unit, and a scheduler, the processing system being arranged to exchange data corresponding to a communication thread selected by the first functional unit in a first handshake procedure, while independently exchanging information relating to a status of at least one communication thread from the second to the first functional unit in a second handshake procedure,

wherein the information enables the first functional unit to anticipate the possibility of exchanging data for the at least one communication thread and for a further communication thread, and wherein the information is indicative of how often new data is to be provided, and wherein the first handshake procedure and the second handshake procedure occur at least partially simultaneously, and wherein the scheduler is configured to schedule by the first functional unit a data transmission at a time when simultaneous unavailability of the at

least one communication thread and the further communication thread is reduced.

5.(Previously Presented) The processing system according to claim 4, further comprising a plurality of functional units in a network, the processing system being arranged to transmit data and a communication thread identifier for said data according to a split protocol along a communication path from a source functional unit to a destination functional unit via one or more intermediate functional units, including a first functional unit and a second functional unit.

6.(Previously Presented) The method of claim 1, wherein the information is indicative for an expected waiting time before a request relating to the at least one communication thread can be handled.

7.(Previously Presented) The processing system of claim 4, wherein the information is indicative for an expected waiting time before a request relating to the at least one communication thread can be handled.

8.(Previously Presented) The method of claim 1, further comprising the act of ordering transactions within the communication thread so that requests from the first functional unit are executed by the second functional unit in a same order as the requests were issued by first functional unit, and responses from the second functional unit are

delivered in the same order as the requests for the responses were issued by the first functional unit.

9.(Previously Presented) A method for exchanging data between a first functional unit and a second functional unit, comprising the following acts:

in a first handshake procedure, exchanging data corresponding to a communication thread selected by the first functional unit;

while independently in a second handshake procedure, exchanging information relating to a status of at least one communication thread from the second to the first functional unit; and

based on the information relating to the status, anticipating by the first functional unit a possibility of exchanging data the for at least one communication thread;

wherein the information is indicative of how often new data is to be provided, and wherein the information is provided by the second functional unit and is indicative of a remaining processing time to calculate by the second functional unit a result.

10.(Previously Presented) The method of claim 9, further comprising the act of scheduling by the first functional unit a data transmission at a time that the result is expected to be ready.

11.(Previously Presented) A method for exchanging data between a first functional

unit and a second functional unit, comprising the following acts:

in a first handshake procedure, exchanging data corresponding to a communication thread selected by the first functional unit;

while independently in a second handshake procedure, exchanging information relating to a status of at least one communication thread from the second to the first functional unit; and

based on the information relating to the status, anticipating by the first functional unit a possibility of exchanging data the for at least one communication thread;

wherein the information is indicative of how often new data is to be provided, and further comprising the acts of:

providing a buffer reserved for the at least one communication thread; and

scheduling by the first functional unit a data transmission at a time that an overflow of the buffer tends to occur for a further communication thread so that simultaneous unavailability of the at least one communication thread and the further communication thread is reduced.

12. (Previously Presented) The method of claim 1, further comprising the acts of:

providing a valid signal announcing request of the information about the at least one communication thread; and

keeping the valid signal high until the information is provided.

13.(Previously Presented) A method for exchanging data between a first functional unit and a second functional unit, comprising the following acts:

in a first handshake procedure, exchanging data corresponding to a communication thread selected by the first functional unit;

while independently in a second handshake procedure, exchanging information relating to a status of at least one communication thread from the second to the first functional unit; and

based on the information relating to the status, anticipating by the first functional unit a possibility of exchanging data the for at least one communication thread;

wherein the information is indicative of how often new data is to be provided, and further comprising the acts of:

providing a notice of each empty buffer that becomes available to the at least one communication thread; and

providing a notice of each new data element that becomes available.

14.(Previously Presented) The processing system of claim 4, wherein the second functional unit executes requests from the first functional unit in a same order as the requests were issued by first functional unit, and wherein the second functional unit delivers to the first functional unit responses to the requests in the same order as the requests were issued by first functional unit.

15.(Previously Presented) A processing system comprising a first functional unit and a second functional unit, the processing system being arranged to exchange data corresponding to a communication thread selected by the first functional unit in a first handshake procedure, while independently exchanging information relating to a status of at least one communication thread from the second to the first functional unit in a second handshake procedure,

wherein the information enables the first functional unit to anticipate the possibility of exchanging data for the at least one communication thread, and wherein the information is indicative of how often new data is to be provided, wherein the information is provided by the second functional unit and is indicative of a remaining processing time to calculate by the second functional unit a result.

16.(Previously Presented) The processing system of claim 15, further comprising the act of scheduling by the first functional unit a data transmission at a time that the result is expected to be ready.

17.(Previously Presented) The processing system of claim 5, wherein the split protocol is configured to allow the source functional unit to have multiple outstanding requests that waiting for a response from the destination functional unit.

18.(Previously Presented) A processing system comprising a first functional unit

and a second functional unit, the processing system being arranged to exchange data corresponding to a communication thread selected by the first functional unit in a first handshake procedure, while independently exchanging information relating to a status of at least one communication thread from the second to the first functional unit in a second handshake procedure,

wherein the information enables the first functional unit to anticipate the possibility of exchanging data for the at least one communication thread, and wherein the information is indicative of how often new data is to be provided, further comprising:

a buffer reserved for the at least one communication thread; and

a scheduler for scheduling by the first functional unit a data transmission at a time that an overflow of the buffer tends to occur for a further communication thread so that simultaneous unavailability of the at least one communication thread and the further communication thread is reduced.

19.(Currently Amended) A processing system comprising a first functional unit and unit, a second functional unit, and a scheduler, the processing system being arranged to exchange data corresponding to a communication thread selected by the first functional unit in a first handshake procedure, while independently exchanging information relating to a status of at least one communication thread from the second to the first functional unit in a second handshake procedure,

wherein the information enables the first functional unit to anticipate the possibility of

exchanging data for the at least one communication thread and for a further communication thread, and wherein the information is indicative of how often new data is to be provided, wherein the first functional unit provides a valid signal announcing request of the information about the at least one communication thread, and keeps the valid signal high until the information is provided, and wherein the scheduler is configured to schedule by the first functional unit a data transmission at a time when simultaneous unavailability of the at least one communication thread and the further communication thread is reduced.

20.(Previously Presented) A processing system comprising a first functional unit and a second functional unit, the processing system being arranged to exchange data corresponding to a communication thread selected by the first functional unit in a first handshake procedure, while independently exchanging information relating to a status of at least one communication thread from the second to the first functional unit in a second handshake procedure,

wherein the information enables the first functional unit to anticipate the possibility of exchanging data for the at least one communication thread, and wherein the information is indicative of how often new data is to be provided, wherein at least one of the first functional unit and the second functional unit provides a notice of each empty buffer that becomes available to the at least one communication thread, and provides a notice of each new data element that becomes available.